

on 1.0 mg/day dose. Median follow up of patients was:  $11.5 \pm 4.13$  months (1.0 mg dose) and  $9.25 \pm 4.78$  months (0.5 mg dose). Four of six patients (66%) who received 1 mg/day Entecavir, developed resistance over a median follow up of 11 months. Of the four patients who received 0.5 mg/day entecavir, one (25%) developed resistance over follow up of 15 months.

**Conclusions:** Entecavir therapy in Lam resistant CHB patients was associated with a high rate of inadequate viral suppression and development of resistance. The dose of Entecavir (0.5 or 1.0) did not seem to have much effect in this group of patients.

**PP-015 Management of chronic hepatitis B (CHB) antiviral resistance – the Asia experience**

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**Background:** Resistance to CHB antivirals is a challenge in the long term. Clinical benefits are compromised once resistance develops and cross-resistance limits treatment options.

**Methods:** Current study randomly selected 575 CHB-treating physicians from China, South Korea, Taiwan, and Thailand where HBV infection is a substantial clinical and financial burden. The study comprised two components designed to assess: (1) current practice in diagnosing antiviral resistance and its management; and (2) financial impact of managing "suspected" resistance.

**Results:** 95–100% of interviewed physicians had encountered antiviral resistance in the first-line setting. Although 68% agreed that prevention of resistance is the most important strategy, 5% did not consider resistance a critical issue. While direct antiviral resistance tests are readily available in South Korea, access is limited in most Asian countries. DNA and ALT tests are the common parameters used to identify suspected resistance in China, Taiwan, and Thailand. Management of suspected resistance (drug cost not included) costs an additional USD 709, 580, 572 and 329 in South Korea, China, Taiwan and Thailand respectively, during the first year immediately after it is identified.

**Conclusion:** Antiviral resistance is a major concern among physicians in Asia, especially during long-term therapy. While access to direct resistance testing is limited in most countries, indirect methods are widely used to guide CHB management decisions. In choosing an oral antiviral to initiate therapy, resistance profile of antiviral is a crucial factor to consider since drug resistance compromises clinical benefit and incurs additional cost.

**PP-016 Effects of metabolic syndrome and related factors in patients with chronic hepatitis B**

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**Objective:** The aim of this study is to investigate the viral and host factors of metabolic syndrome in chronic hepatitis B patients.

**Methods:** We studied 89 patients with untreated chronic hepatitis B, who were from Beijing Ditan hospital in 2005 to 2007. According to the diagnose of metabolic syndrome, two groups were established: group with MS (+MS) and group MS

(–MS). They were compared with demographic, biochemical, metabolic and histological characteristics.

**Results:** The mean age, BMI and gender were not statistically significant difference ( $p > 0.05$ ) between the two groups. In the group of chronic hepatitis B with MS, the levels of FINS, HOMA-IR, HOMA- $\beta$ , TG, and the positivity of HBeAg were significantly higher than those in the group without MS ( $P < 0.05$ ). The degree of hepatosteatosis in the group with MS is significantly more severe than that in the group without MS ( $P < 0.001$ ).

**Conclusion:** Metabolic syndrome in chronic hepatitis B patients is closely correlated with insulin resistance and glycometabolism, and less effect of viruses. That may be the main characteristic of metabolism in patients chronically infected with the hepatitis B virus.

**PP-017 The research of the cloning characteristics of the CDR3-distinct of the TCR V $\beta$  gene of the CD8+T cell of the HBV infected person**

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**Objective:** This paper is an attempt to do research on the cloning characteristics of the CDR3-distinct of the TCR V $\beta$  gene of the CD8+T cell of the HBV infected person.

**Methods:** The PCR approach of poly-primer is applied and meanwhile the many pieces of the CDR3-distinct of the TCR V $\beta$  gene are amplified. HR-Agarose Gel Electrophoresis is employed to detect the cloning characteristics.

**Result:** The HBV infected person's cloning of the TCR V $\beta$ 9 and V $\beta$ 14 of the CD8+T cell is obviously higher than the normal control group ( $p < 0.01$ ).

**Conclusion:** The HBV infected person has the cloning changes of the TCR V $\beta$ 9 and V $\beta$ 14 of the CD8+T cell, which have an effect on the mediating of the Liver Injury.

**PP-018 HIV/Hepatitis B Co-infection among Nepal MSM/W**

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HIV/AIDS is one of the most public health problems of this century. Moreover, co-infection with the Hepatitis B virus is likely to become a major health care catastrophe. This study was carried out White Feather Nepal and different 4 Laboratories with the objective to determine HIV/Hepatitis B co-infection among 544 sexual minorities from Katmandu including Men Sex workers, gay men and transgender.

**Methods:** HIV status was determined both by Rapid and ELISA techniques. HIV sero-positive samples were further tested for Hepatitis B Surface Antigen (HBsAg) by ELISA. Data obtained from laboratories findings and questionnaires were statistically analyzed by using SPSS 11.5.

**Results:** Out of 544 HIV suspected individuals, 221 (40%) were diagnosed as HIV positive, of which, 187 HIV positive sera were tested for Hepatitis B. In HIV positive individuals, sexual transmission was the most common route (77.4%), followed by IDUs (12.2%). Of 187 HIV positive individuals, 15% were diagnosed to be co-infected with Hepatitis B. Highest prevalence of HIV/Hepatitis B co-infection (46.4%) was observed in age group 26–35 years, followed by 16–25 years and the co infection rate was found to be higher (78.6%) in married individuals than in unmarried (17.9%). Lower rate of co-infection (17.9%) was detected among the individuals vaccinated against Hepatitis B than unvaccinated (82.1%).

**Lesson learned/recommendation:** In Nepal, 15% of HIV positive individuals being co-infected with Hepatitis B is a recent threat to the health authority since both the infections share a similar route of transmission which may contribute to the devastating AIDS epidemic. Hepatitis B screening should be made mandatory for all HIV sero-positive individuals.

**PP-019 Intrahepatic expression of PD-1, PD-L1 and PD-L2 in Chronic Hepatitis B patients**

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**Background:** The dysfunction of T cells may represent a mechanism of hepatitis B virus (HBV) persistence. Programmed death-1 (PD-1) and its ligands, PD-L1/PD-L2, are new members of CD28/B7 family, was reported to transfer inhibitory signal, leading to the dysfunction of T cells.

**Methods and Patients:** Immunohistochemical analysis of tissue samples from 56 patients with chronic hepatitis B (CHB), 12 acute hepatitis B (AHB) patients and 10 health controls was performed.

**Results:** PD-1 was positively expressed in inflammatory cells infiltrating the portal area dominantly. PD-L1 expression was more extensive, apart from the in portal area, also expressed on hepatocytes and sinusoidal endothelial cells. PD-L2 mostly expressed on kupffer cells (KCs) and dendritic cells (DCs) in portal area as well as interlobular. The PD-1-, PD-L1-positive cells on lymphocytes infiltrating portal area of CHB patients was  $32.33\% \pm 30.56\%$  and  $30.68\% \pm 27.07\%$  respectively, more than that of health controls ( $2.68\% \pm 2.37\%$ ,  $5.3\% \pm 5.62\%$   $p < 0.05$ ) and that of AHB patients ( $12\% \pm 9.6\%$ ,  $8.7\% \pm 7.4\%$   $p < 0.05$ ). The PD-L2-positive cells on KCs and DCs in CHB patients was much higher ( $6.57\% \pm 7.21\%$ ) than that in AHB patients ( $15.7\% \pm 8.2\%$ ) and health controls ( $2.06\% \pm 2.35\%$ ),  $p < 0.05$ . According to the severity of illness index, the PD-1, PD-L1, and PD-L2 expression rate within CHB patients was increase with the disease progression ( $p < 0.05$ ). The expression of PD-L1 in interlobular in CHB was assayed also, in severity group the number of higher score was more than that in mild groups. And the expression of PD-1 on lymphocytes was correlated positively both with ALT ( $r = 0.484$ ,  $p < 0.05$ ) and AST ( $r = 0.721$ ,  $p < 0.05$ ), although had not apparent correlation with plasma DNA.

**Conclusion:** Overexpression of PD-1 and PD-L within liver might be involved in inhibiting the immune response and be a mechanism of chronicity in HBV infection.

**PP-020 Hepatic steatosis is associated with host metabolic factors but not viral effect in Chinese patients with chronic hepatitis B**

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**Aims:** To investigate the prevalence and the risk factors of hepatic steatosis in Chinese patients with chronic hepatitis B.

**Methods:** Patients infected with hepatitis B virus who underwent liver biopsy were included. One hundred and sixty-one patients with chronic hepatitis B were divided into two groups depending on the presence or absence of steatosis in liver biopsy specimens. The relationships of steatosis and demographic, laboratory and histological characteristics were evaluated. Liver necroinflammatory

activity and fibrosis were evaluated according to the Knodell and Ishak's classification, respectively. Detection of HBsAg and HBeAg were performed in liver specimen by immunohistochemistry. Logistic regression analysis was applied to identify variables that were independently associated with the presence of steatosis.

**Results:** Hepatic steatosis was present in 53 patients with chronic hepatitis B (53/161, 32.9%). Steatosis was predominantly macrovesicular (49/53, 92.4%). Steatosis was associated with ages ( $P < 0.001$ ), BMI ( $P < 0.001$ ), fasting blood sugar ( $P = 0.001$ ), cholesterol ( $P = 0.011$ ) and triglyceride ( $P = 0.004$ ). In the multivariate analysis both BMI ( $P = 0.036$ ) and cholesterol ( $P = 0.021$ ) were independent predictors of the presence of steatosis. No significant correlation was found with gender, ALT, AST, TBil, ALP, GGT, HBeAg, hepatitis B viral load, and histological findings between the two groups ( $P > 0.05$ ). HBsAg and HBeAg were also detected in hepatocytes contain fat vacuoles.

**Conclusion:** Hepatic steatosis is present in 32.9% of patients with biopsy-proven chronic hepatitis B. Steatosis is independently associated with ages, BMI, fasting blood sugar, cholesterol and triglyceride, suggesting being as a result of metabolic factors of the host rather than the effect of viruses and it seems to have not impact the necroinflammatory activity and fibrosis.

**PP-021 Effect of INF- $\gamma$  treating on PD-1 expression on lymphocytes**

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**Background:** The dysfunction of T cells may represent a mechanism of hepatitis B virus (HBV) persistence. Programmed death-1 (PD-1) and its ligands, PD-L1/PD-L2, are new members of CD28/B7 family, as co-stimulatory molecules expressing on T cells and Antigen Present Cells (APCs). Their engaging can downregulate the T cells function, including proliferation, cytokines secretion and cytotoxicity. In periphery blood, PD-1 was upregulated on virus specific-T cells, leading to the impairment of T cells. Blocking the PD-1/PD-L can improve the function of T cells.

**Methods and Patients:** 21 patients with chronic hepatitis B (CHB) were treated by IFN- $\gamma$  (Pegintron, once a week, 0.5 or 1 mg/kg/weight). The periphery blood were taken at pretherapy, 4 weeks, 8 weeks, and 12 weeks. Periphery blood mononuclear cells were isolated from fresh heparinized blood by Ficoll-Hypaque (density:1.077g/L) density gradient centrifugation. The PD-1 expression on lymphocytes was detected by flow cytometry (FCM).

**Results:** The PD-1 expression on lymphocytes at pretherapy was  $14.47 \pm 5.8\%$ , at 4 weeks was  $9.68 \pm 3.75\%$ , at 8 weeks was  $6.95 \pm 2.39\%$ , at 12 weeks was  $6.08 \pm 1.31\%$  ( $p < 0.05$ ).

**Conclusion:** Treatment of IFN- $\gamma$  can downregulate the PD-1 expression on lymphocytes. Say in other words, Treatment of IFN- $\gamma$  can partially restore the function of T cells.

**PP-022 Clinical study of JianpiQinghua prescription combined with lamivudine to treat chronic hepatitis B**

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**Objective:** To evaluate the antiviral efficacy of JianpiQinghua Prescription Combined with Lamivudine to treat chronic hepatitis B differentiated as syndrome type of liver depression and spleen asthenia accompanied by